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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/528,552	03/20/2000	Clifford James Connors	021953.0290 (ET 99-38)	4973

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EXAMINER

RAO, ANAND SHASHIKANT

ART UNIT PAPER NUMBER

2613

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/528,552

Applicant(s)

CONNORS ET AL.

Examiner

Andy S. Rao

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action as filed on 6/6/05 is persuasive and, therefore, the finality of that action is withdrawn.
2. Applicant's arguments with respect to claims 1-40 as contained in the After Final Response of 6/6/05 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morley in view of Janeczko et al., (hereinafter referred to as "Janeczko").

Morley discloses a method for combining multispectral images of a scene, the system comprising: a channel for transmitting a scene in a first spectral band (Morley: column 6, lines 15-20); a detector for sensing the scene in a second spectral band having an image output representative of the scene (Morley: column 10, lines 1-10); a display for receiving the image output and displaying a displayed image in the first spectral band (Morley: column 9, lines 25-34); a collimator (Morley: column 8, lines 5-10) for receiving and projecting the displayed image (Morley: column 10, lines 11-17), as in claim 1. However Morley fails to disclose a beam mixer for combining the transmitted scene in the first spectral band with the displayed image (Morley:

Art Unit: 2613

column 9, lines 45-64), and conveying the combined multispectral images to an output (Morley: column 10, lines 20-25), as claim 1. Janeczko discloses an enhanced night vision device including a beam mixer for combining a transmitted scene in a first spectral band with a displayed image (Janeczko: column 11, lines 5-24; column 12, lines 1-12) in order to have the ability for both day and night time viewing (Janeczko: column 1, lines 10-15). Accordingly, given this teaching, it would have been obvious for one of ordinary skill in the art to modify the Morley apparatus to incorporate the Janeczko beam mixer in order to allow the user of the composite apparatus have the ability for both day and night-time viewing. The Morley apparatus, now incorporating the Janeczko beam mixer, has all of the features of claim 1.

Regarding claim 2, the Morley apparatus, now incorporating the Janeczko beam mixer, discloses that the first spectral band is visible (Morley: column 6, lines 10-20), as in the claim.

Regarding claim 3, the Morley apparatus, now incorporating the Janeczko beam mixer, discloses that the second spectral band is infrared (Morley: column 6, lines 10-20), as in the claim.

Regarding claim 4, the Morley apparatus, now incorporating the Janeczko beam mixer, discloses that the display is an active matrix display (Morley: column 9, lines 20-25), as in the claim.

Regarding claim 5, the Morley apparatus, now incorporating the Janeczko beam mixer, further discloses a viewing system coupled to the output (Morley: column 9, lines 60-65), as in the claim.

Art Unit: 2613

Regarding claim 6, the Morley apparatus, now incorporating the Janeczko beam mixer, discloses that the representative output is an analog video signal (Morley: column 10, lines 18-20), as in the claim.

Regarding claim 7, the Morley apparatus, now incorporating the Janeczko beam mixer, discloses that the representative output is a digital video signal (Morley: column 10, lines 20-22), as in claim.

Regarding claims 8-9, the Morley apparatus, now incorporating the Janeczko beam mixer, discloses that the viewing system is a night vision device and camera (Morley: column 5, lines 20-25), as in the claims.

Regarding claims 10-12, the Morley apparatus, now incorporating the Janeczko beam mixer, discloses having a data port (Morley: column 10, lines 22-25), as in the claims.

Regarding claims 13-14, the Morley apparatus, now incorporating the Janeczko beam mixer, discloses that the first and second bands have a common aperture (Morley: column 8, lines 39-63), as in the claims.

Regarding claims 15-16, the Morley apparatus, now incorporating the Janeczko beam mixer, discloses having an objective lens assembly (Morley: column 8, lines 5-10) and an image intensifier (Morley: column 9, lines 50-60), as in the claims.

Morley discloses a method for combining multispectral images of a scene, the method comprising: receiving an image of the scene in a first spectral range at a detector (Morley: column 6, lines 15-20); generating a video representation of the image (Morley: column 10, lines 15-20); transmitting the video representation to a display (Morley: column 9, lines 25-34); generating a visual representation of the image at the display (Morley: column 10, lines 20-25)

Art Unit: 2613

relaying the visual representation of the image (Morley: column 9, lines 65-67); receiving the image of the scene in a second spectral range (Morley: column 6, lines 15-20), as in claim 17. However, Morley fails to disclose combining the relayed image with an image in the second spectral region; transmitting the combined images to an output; and displaying the combined multi-spectral images of the scene, as in claim 17. However Morley fails to disclose a beam mixer for combining the transmitted scene in the first spectral band with the displayed image, and conveying the combined multispectral images to an output, as claim 1. Janeczko discloses an enhanced night viewing method including the steps of combining the relayed image with an image in the second spectral region (Janeczko: column 11, lines 5-15); transmitting the combined images to an output (Janeczko: column 11, lines 210-26: "fiber optic bundle"); and displaying the combined multi-spectral images of the scene (Janeczko: column 12, lines 1-12) in order to have the ability for both day and night time viewing (Janeczko: column 1, lines 10-15). Accordingly, given this teaching, it would have been obvious for one of ordinary skill in the art to modify the Morley method to incorporate the Janeczko combination and displaying steps in order to allow the user of the composite method have the ability for both day and night-time viewing. The Morley method, now incorporating the Janeczko combination and displaying steps, has all of the features of claim 17.

Regarding claim 18, the Morley method, now incorporating the Janeczko combination and displaying steps, discloses that the first spectral band is visible (Morley: column 6, lines 10-20), as in the claim.

Art Unit: 2613

Regarding claim 19, the Morley method, now incorporating the Janeczko combination and displaying steps, discloses that the second spectral band is infrared (Morley: column 6, lines 10-20), as in the claim.

Regarding claim 20, the Morley method, now incorporating the Janeczko combination and displaying steps, discloses having an image intensifier (Morley: column 9, lines 50-60), as in the claim.

Regarding claim 21, the Morley method, now incorporating the Janeczko combination and displaying steps, discloses having a data port (Morley: column 10, lines 22-25), as in the claim.

Regarding claim 22, the Morley method, now incorporating the Janeczko combination and displaying steps, discloses superimposing data on the multispectral images (Morley: column 5, lines 60-67), as in the claim.

Regarding claim 23, the Morley method, now incorporating the Janeczko combination and displaying steps, discloses that the relaying step comprises collimating the visual representation of the image (Morley: column 8, lines 5-10), as in the claims.

Regarding claim 24, the Morley method, now incorporating the Janeczko combination and displaying steps, discloses the step of processing the video representation of the image (Morley: column 10, lines 15-25), as in the claim.

Morley discloses a method for combining multispectral images of a scene, the method comprising: receiving an infrared image of a scene at an infrared detector (Morley: column 6, lines 15-20); generating a representation of the infrared images (Morley: column 10, lines 15-20); transmitting the infrared image representation to a display (Morley: column 9, lines 25-34);

Art Unit: 2613

collimating the displayed infrared image (Morley: column 10, lines 11-17), as in claim 25.

However Morley fails to disclose a beam mixer for combining the collimated infrared image with an image of the scene in a second spectral region; transmitting the combined images to an intensifier system operable to intensify images in the second spectral region; and displaying the combining images of the scene, as claim 25. Janeczko discloses an enhanced night viewing method including the steps of combining a collimated infrared image with an image of the scene in a second spectral region (Janeczko: column 11, lines 5-15); transmitting the combined images (Janeczko: column 11, lines 20-27) to an intensifier system operable to intensity images in the second spectral region (Janeczko: column 10, lines 55-67); and displaying the combined images of the scene (Janeczko: column 12, lines 1-10), in order to have the ability for both day and night time viewing (Janeczko: column 1, lines 10-15). Accordingly, given this teaching, it would have been obvious for one of ordinary skill in the art to modify the Morley method to incorporate the Janeczko combination and displaying steps in order to allow the user of the composite method have the ability for both day and night-time viewing. The Morley method, now incorporating the Janeczko combination and displaying steps, has all of the features of claim 25.

Regarding claim 26, the Morley method, now incorporating the Janeczko combination and displaying steps, discloses that the second spectral band is visible (Morley: column 6, lines 10-20), as in the claim.

Regarding claim 27, the Morley method, now incorporating the Janeczko combination and displaying steps, discloses that the viewing system are night vision goggles (Morley: column 5, lines 20-25), as in the claims.

Art Unit: 2613

Regarding claim 28, the Morley method, now incorporating the Janeczko combination and displaying steps, discloses that the first and second bands have first and second apertures (Morley: column 8, lines 39-63), as in the claim.

Regarding claim 29, the Morley method, now incorporating the Janeczko combination and displaying steps, further discloses that the visual representation of the infrared image is displayed at an external viewer (Morley: column 9, lines 60-65), as in the claim.

Regarding claim 30, the Morley method, now incorporating the Janeczko combination and displaying steps, has discloses that the representative output is an analog video signal (Morley: column 10, lines 18-20), as in the claim.

Regarding claim 31, Morley discloses superimposing data on the multispectral images (Morley: column 5, lines 60-67), as in the claim.

Regarding claim 32, Morley discloses the step of processing the video representation of the image (Morley: column 10, lines 15-25), as in the claim.

Morley discloses a system for combining multispectral images of a scene, the system comprising: a viewing system for viewing the scene in a first spectral range (Morley: column 10-20), the viewing system having an objective lens and viewing optics (Morley: column 6, lines 55-67); a detector for viewing the scene in a second spectral range, the detector having an image output representative of the viewed scene (Morley: column 6, lines 15-20); a display for receiving and displaying the image output (Morley: column 10, lines 20-25); a collimator (Morley: column 8, lines 5-10) for receiving and projecting the displayed image (Morley: column 10, lines 11-17); and a beam mixer for receiving the viewed scene in the first spectral range and the displayed image and (Morley: column 9, lines 45-64), and conveying both images

Art Unit: 2613

to the viewing system to construct the combined multi-spectral images of the scene (Morley: column 10, lines 20-25), as claim 33. However Morley fails to disclose a beam mixer for receiving the viewed scene in the first spectral range and the displayed images (Morley: column 9, lines 45-64), and conveying both images to the viewing system construct the combined multi-spectral images of the scene (Morley: column 10, lines 20-25), as claim 33. Janeczko discloses an enhanced night vision device including a beam mixer for receiving the viewed scene in the first spectral range and the displayed images (Janeczko: column 11, lines 5-24); and conveying both images to the viewing system construct the combined multi-spectral images of the scene (Janeczko: column 12, lines 1-12) in order to have the ability for both day and night time viewing (Janeczko: column 1, lines 10-15). Accordingly, given this teaching, it would have been obvious for one of ordinary skill in the art to modify the Morley apparatus to incorporate the Janeczko beam mixer in order to allow the user of the composite apparatus have the ability for both day and night-time viewing. The Morley apparatus, now incorporating the Janeczko beam mixer, has all of the features of claim 33.

Regarding claim 34, the Morley apparatus, now incorporating the Janeczko beam mixer, discloses having an image intensifier (Morley: column 9, lines 50-60), as in the claim.

Regarding claim 35, the Morley apparatus, now incorporating the Janeczko beam mixer, discloses that the first spectral band is visible (Morley: column 6, lines 10-20), as in the claim.

Regarding claim 36, the Morley apparatus, now incorporating the Janeczko beam mixer, discloses that the second spectral band is infrared (Morley: column 6, lines 10-20), as in the claim.

Art Unit: 2613

Regarding claim 37, the Morley apparatus, now incorporating the Janeczko beam mixer, discloses that the display is an active matrix display (Morley: column 9, lines 20-25), as in the claim.

Regarding claim 38, the Morley apparatus, now incorporating the Janeczko beam mixer, discloses that the viewing system is a night vision device and camera (Morley: column 5, lines 20-25), as in the claim.

Regarding claim 39, the Morley apparatus, now incorporating the Janeczko beam mixer, discloses that the representative output is an analog video signal (Morley: column 10, lines 20-22), as in claim.

Regarding claim 40, the Morley apparatus, now incorporating the Janeczko beam mixer, has discloses that the representative output is a digital video signal (Morley: column 10, lines 20-22), as in claim.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Suganuma discloses a method of recording and reproducing a hologram. Taniguchi discloses an image display apparatus.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andy S. Rao whose telephone number is (571)-272-7337. The examiner can normally be reached on Monday-Friday 8 hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad S. Dastouri can be reached on (571)-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2613

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

asr
July 7, 2005

Andy S. Rao
Primary Examiner
Art Unit 2613
ANDY RAO
PRIMARY EXAMINER

